

## PATENT ABSTRACTS OF JAPAN

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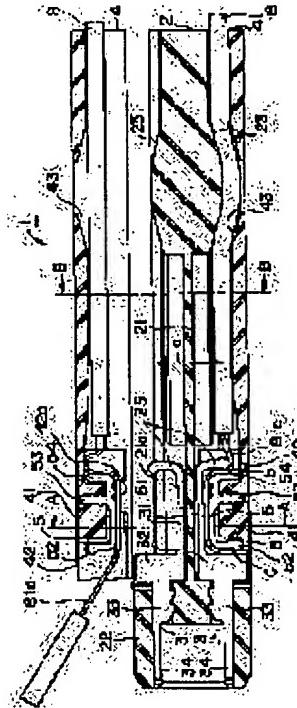
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## (54) CABLE CONNECTOR AND ITS CONNECTING METHOD

(57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a cable connector capable of coping with a reduction in the pitch of cables and simultaneously interconnecting and clamping the cables at reduced cost.

**SOLUTION:** This cable connector includes a base insulator 2 having a first clamping part 23 for clamping a cable 8 in a predetermined direction (a), a base contact 3 provided at the base insulator 2 for making contact with the conductor of the cable 8, a cover insulator 4 having a second clamping part 43 which cooperates with the first clamping part 23 to clamp the cable 8 in the predetermined direction (a), and being butted and fixed to the base insulator 2, a support contact 5 provided at the cover insulator 4 for clamping the conductor in cooperation with the base contact 3, and a partition 42 formed in at least either of the base insulator 2 or the cover insulator 4 for positioning the conductor relative to the base contact 3 and the support contact 5.



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CLAIMS

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## [Claim(s)]

[Claim 1] It is a cable connector for connecting a cable to the connection object. A base insulator, The base contact which is formed in this base insulator and contacts the core wire of said cable on this base insulator, The covering insulator which is compared by said base insulator and fixed to it in the predetermined direction, The support contact which collaborates with said base contact and pinches said core wire when it is prepared in this covering insulator and this covering insulator is compared by said base insulator, It is formed at least in one side of said base insulator and said covering insulator. The cable connector characterized by changing so that it may have the bridge wall which positions said core wire to said base contact and said support contact and at least one side of said base contact and said support contact may be connected to said connection object.

[Claim 2] At least one side of said base contact and said support contact is a cable connector according to claim 1 characterized by having a piece of an elastic contact spring and said core wire being electrically connected at least to one side of said base contact and said support contact by this piece of an elastic contact spring.

[Claim 3] Said base insulator is a cable connector according to claim 1 or 2 characterized by having the bracing for preventing the deflection of said base contact in the direction which intersects perpendicularly with said predetermined direction and the longitudinal direction of said cable.

[Claim 4] Said covering insulator is a cable connector given in claim 1 characterized by changing so that it may be fixed to said base insulator with a screw thru/or the claim of one of 3.

[Claim 5] Said covering insulator is a cable connector given in claim 1 characterized by changing so that it may be fixed to said base insulator by the engagement means thru/or the claim of one of 3.

[Claim 6] It is a cable connector given in claim 1 which said base insulator has the 1st clamp section for clamping the thickness direction end face of said cable in said predetermined direction, and is characterized by said covering insulator having the 2nd clamp section which collaborates with said 1st clamp section and clamps the thickness direction end face of said cable in said predetermined direction thru/or the claim of one of 5.

[Claim 7] The core wire exposure process at which it is the connection approach for connecting a cable connector given in claim 1 thru/or the claim of one of 6 on a cable, and the half strip of the edge of said cable is carried out, and some core wires are exposed, So that said exposed core wire may contact said support contact after this core wire exposure process The cable-layout process which arranges said cable to said covering insulator, By comparing said covering insulator to said base insulator in said predetermined direction with said cable after this cable-layout process, and fixing said covering insulator to said base insulator further After the connection and the clamp process which clamps said cable while pinching said exposed core wire by said base contact and said support contact and connecting this core wire at least to one side of said base contact and said support contact electrically, and this connection and clamp process, The connection approach characterized by having the cable cutting process of cutting the edge of said cable.

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention belongs to the connector for cables, and belongs to the cable connector suitable for the flat cable of the shape of a ribbon which arranged the core wire in the \*\* pitch especially.

[0002]

[Description of the Prior Art] the approach of the connection in the conventional general cable connector pressing the core wire of a cable fit in the slit formed in the piece of a pressure welding of contact, and carrying out the pressure welding of the core wire to contact -- or it was carried out by the approach of making a core wire sticking to contact by pressure as the core wire of a cable is wrapped in by the piece of sticking by pressure of contact.

[0003] It is impossible to correspond the piece of a pressure welding and the piece of sticking by pressure of contact to \*\* pitch-ization of the core wire in today's multi-conductor cable by these connection approaches.

[0004] In order to cancel this trouble, the connector it was made to contact the core wire of a direct cable on the side face of contact was invented without preparing the piece of a pressure welding, and the piece of sticking by pressure in contact so that it might be indicated by JP,5-101853,A or JP,10-255921,A.

[0005]

[Problem(s) to be Solved by the Invention] In the case of an electrical connector given in JP,5-101853,A, the cable to which the core wire was exposed is clamped by the 1st fixed attachment component and the 2nd fixed attachment component. However, in this condition While stopping the 1st and 2nd fixed attachment components in the fixed attachment component attachment section of a buttress plate, the center section of the exposure core wire is arranged on the core wire supporter of a buttress plate. After arranging the point of an exposure core wire on the tip attaching part of a buttress plate and constituting a male connector, this male connector is inserted into a tubed female connector along with the longitudinal direction of a cable, and the pressure welding of the exposure core wire is carried out to contact. Furthermore, by the above It changes so that an exposure core wire may be connected in contact. Thus, in this electrical connector, the clamp and connection of a cable could not be performed to coincidence, but that activity was troublesome.

[0006] Moreover, since it changed so that a male connector may be inserted into a female connector by the longitudinal direction of a cable and the core wire of a cable may be pushed against contact in the thickness direction of a male connector within this female connector, the press heights for driving the press slider and this press slider for pushing a core wire against contact in the thickness direction of a male connector etc. were needed, and for this reason, the configuration was complicated and disadvantageous in this electrical connector, in respect of the manufacturing cost etc.

[0007] on the other hand -- the case of a connector given in JP,10-255921,A -- the cable of a cable -- a conductor, although characterized by using the very thing as a plug of a connector Therefore, two or more cables are made to arrange on a cable holder by the cable seriate arrangement section (above). A conductor is arranged to the cable guide rail of a cable holder. equivalent to a clamp activity, after that, and a cable -- this cable -- a conductor -- the shape of U character -- bending -- the point of a cable holder -- twisting -- this cable -- the tip of a conductor is stuck on a cable holder by lamination, since it changes like (above equivalent to a connection activity) Too, this connector could not perform the clamp and connection of a cable to coincidence, either, but that activity was troublesome. Furthermore, since the cable seriate arrangement section, a lamination, etc. were needed, it was disadvantageous in respect of the manufacturing cost etc.

[0008] So, the technical problem of this invention can be equivalent to \*\* pitch-ization of a cable, moreover, is cheap and is to offer the cable connector which can perform the connection and the clamp of a cable to coincidence.

[0009]

[Means for Solving the Problem] According to invention according to claim 1, it is a cable connector for connecting a cable to the connection object. A base insulator, The base contact which is formed in this base insulator and contacts the core wire of said cable on this base insulator, The covering insulator which is compared by said base insulator and fixed to it in the predetermined direction, The support contact which collaborates with said base contact and pinches said core wire when it is prepared in this covering insulator and this covering insulator is compared by said base insulator, It is formed at least in one side of said base insulator and said covering insulator. It has the bridge wall which positions said core wire to said base contact and said support contact. The cable connector characterized by at least one side of said base contact and said support contact changing so that it may connect with said connection object is obtained.

[0010] According to invention according to claim 2, at least one side of said base contact and said support contact has a piece of an elastic contact spring, and the cable connector according to claim 1 characterized by said core wire being electrically connected at least to one side of said base contact and said support contact by this piece of an elastic contact spring is obtained.

[0011] According to invention according to claim 3, the cable connector according to claim 1 or 2 characterized by said base insulator

'having the bracing for preventing the deflection of said base contact in the direction which intersects perpendicularly with said predetermined direction and the longitudinal direction of said cable is obtained.

[0012] According to invention according to claim 4, the cable connector of a publication is obtained by claim 1 characterized by said covering insulator changing so that it may be fixed to said base insulator with a screw thru/or the claim of one of 3.

[0013] According to invention according to claim 5, the cable connector of a publication is obtained by claim 1 characterized by said covering insulator changing so that it may be fixed to said base insulator by the engagement means thru/or the claim of one of 3.

[0014] According to invention according to claim 6, said base insulator has the 1st clamp section for clamping the thickness direction end face of said cable in said predetermined direction, and the cable connector of a publication is obtained by claim 1 characterized by said covering insulator having the 2nd clamp section which collaborates with said 1st clamp section and clamps the thickness direction end face of said cable in said predetermined direction thru/or the claim of one of 5.

[0015] According to invention according to claim 7, it is the connection approach for connecting a cable connector given in claim 1 thru/or the claim of one of 6 on a cable. So that said exposed core wire may contact said support contact after the core wire exposure process at which the half strip of the edge of said cable is carried out, and some core wires are exposed, and this core wire exposure process The cable-layout process which arranges said cable to said covering insulator, By comparing said covering insulator to said base insulator in said predetermined direction with said cable after this cable-layout process, and fixing said covering insulator to said base insulator further After the connection and the clamp process which clamps said cable while pinching said exposed core wire by said base contact and said support contact and connecting this core wire at least to one side of said base contact and said support contact electrically, and this connection and clamp process, The connection approach characterized by having the cable cutting process of cutting the edge of said cable is acquired.

[0016]

[Function] If a covering insulator is compared to a base insulator in the predetermined direction and these are mutually fixed after aligning the core wire of a cable with a bridge wall in the case of the cable connector of this invention, it will be pinched by base contact and support contact, and will connect at least with one of these electrically, and a core wire will be clamped by coincidence.

[0017]

[Embodiment of the Invention] Drawing of longitudinal section of the cable connector which drawing 1 requires for the 1st operation gestalt of this invention, The sectional view in the A-A line of drawing 1 and drawing 3 drawing 2 The sectional view in the B-B line of drawing 1 , Drawing 4 shows the cable connector of drawing 1 . A front view and (b) (a) A top view, The flat-sized coaxial cable with a drain wire which is connected to the cable connector which shows (c) in a side elevation and shows drawing 5 to drawing 1 is shown, and (a) is [ the top view of an important section and (c of a perspective view and (b)) ] the cross-sectional views of an important section.

[0018] With reference to drawing 1 thru/or drawing 5 , the cable connector 1 of this operation gestalt is constituted including the base insulator 2, two or more base contacts 3, the two covering insulator 4, and two or more support contacts 5. This cable connector 1 is for connecting the flat-sized coaxial cable 8 with a drain wire to the other party connector (not shown) which is a connection object.

[0019] Incidentally, this flat-sized coaxial cable 8 with a drain wire consists of the UV hardening resin (or film) 82 which connects two or more coaxial cables 81 with a drain wire and these coaxial cables 81 with a drain wire so that clearly from drawing 5 . Furthermore, each coaxial cable 81 with a drain wire has changed to signal-line 81a; dielectric 81b which encloses this signal-line 81a, drain wire 81c which extends in parallel with signal-line 81a, signal-line 81a and dielectric 81b, and a list from sheath 81e which holds shielding 81d which wraps in drain wire 81c, and these signal-lines 81a, dielectric 81b, drain wire 81c, and shielding 81d. In addition, in the case of this flat-sized coaxial cable 8 with a drain wire, signal-line 81a and drain wire 81c change with the core wire.

[0020] The base insulator 2 has the clamp crests 23 and 23 which are the plate-like section 21, the fitting section 22, and the 1st clamp section. The plate-like section 21 is plate-like, is the thickness direction, and it changes so that a coaxial cable 8 may be caught and supported. Bracing 21a for preventing the deflection of the base contact 3 of the direction which intersects perpendicularly with space in drawing 1 is formed in the plate-like section 21. The fitting sections 22 are the other party connector and a part which fits in, and are formed successively by the end of the plate-like section 21 at one. The clamp crests 23 and 23 protrude on the vertical side of the other end of the plate-like section 21 at one, respectively. These clamp crests 23 and 23 are the predetermined directions (in the case of this operation gestalt the thickness direction of the plate-like section 21) a, and are for clamping the thickness direction end face (it being the direction end face of a path, when the cross section of a cable is circular) of a coaxial cable 8.

[0021] The pinching section 31 for each base contact 3 to pinch the core wire of a coaxial cable 8, The core wire contact section 32 which are formed successively by the end of this pinching section 31 and contacts a core wire, The press fit section 33 which are formed successively by the end of this core wire contact section 32, and is pressed fit in the fitting section 22, It is formed successively by the end of this press fit section 33, is formed successively by the other end of the other party contact section 34 in contact with the other party connector, and the pinching section 31, and has the piece 35 of a base side elastic contact spring which presses a core wire to the direction of the support contact 5. Two or more base contacts 3 are pressed fit in the fitting section 22 in the predetermined pitch in the vertical side of the plate-like section 21.

[0022] Two or more contact attaching parts 41 which each covering insulator 4 is abbreviation plate-like, and were formed so that the base contact 3 might be countered in the above-mentioned predetermined direction a at the end section, The bridge wall 42 which is prepared in the both sides of each contact attaching part 41, and positions a core wire to the support contact 5 and the base contact 3, It is formed in the base insulator 2 side of the other end of the covering insulator 4, and has the clamp trough 43 which is the 2nd clamp section which collaborates with the clamp crest 23 and clamps the thickness direction end face of a coaxial cable 8 in the above-mentioned predetermined direction a. Crevise 42a for avoiding contact to bracing 21a formed in the base insulator 2 is formed in the bridge wall 42. It is the above-mentioned predetermined direction a, as two covering insulators 4 put the base insulator 2, they are compared by the base insulator 2, and it is in this condition, and as shown in drawing 4 , they change [ it is mutually joined with a screw 44 and ] so that it may be fixed to the base insulator 2 by this.

[0023] The pinching section 51 which collaborates with the pinching section 31 of the base contact 3, and pinches the core wire of a

coaxial cable 8 when each support contact 5 is presenting the shape of an abbreviation easy and the covering insulator 4 is compared by the base insulator 2, The piece 52 of a support side elastic contact spring which are formed successively by the end of this pinching section 51 and pushes a core wire against the direction of the core wire contact section 32 of the base contact 3, The press fit section 53 which are formed successively by the center section of the pinching section 51 and is pressed fit in the contact attaching part 41 of the covering insulator 4, It is formed successively by the other end of the pinching section 51, the piece 35 of a base side elastic contact spring of the base contact 3 is countered, the core wire pressed by this piece 35 of a base side elastic contact spring is caught and caught, and it has the piece 54. Each support contact 5 is arranged between bridge walls 42 by pressing the press fit section 53 fit in the contact attaching part 41 of the covering insulator 4.

[0024] Next, the connection approach of the flat-sized coaxial cable 8 with a drain wire in the cable connector 1 of this operation gestalt is explained.

[0025] First, as shown in drawing 5, in the end section of a coaxial cable 8, UV hardening resin 82, sheath 81e, shielding 81d, and dielectric 81b are cut, this cut part is shifted from signal-line 81a and drain wire 81c in the direction of a tip to extent which is not dedropping, and the half strip of a part of signal-line 81a and drain wire 81c is carried out (above, core wire exposure process).

[0026] Next, as shown in the base insulator 2 bottom shown in drawing 1 thru/or drawing 3 in this condition, a coaxial cable 8 is arranged to the covering insulator 4. Signal-line 81a and drain wire 81c of a coaxial cable 8 are arranged between bridge walls 42, respectively, and it is made for signal-line 81a and drain wire 81c to contact the support contact 5 at this time (above, cable-layout process).

[0027] Next, as shown in the base insulator 2 bottom shown in drawing 1 thru/or drawing 3, the covering insulator 4 which has arranged the coaxial cable 8 is compared to the base insulator 2 in the above-mentioned predetermined direction with a coaxial cable 8. Consequently, signal-line 81a and drain wire 81c of a coaxial cable 8 are pinched by the base contact 3 and the support contact 5, and connection of signal-line 81a and the drain wire 81c is carried out to the base contact 3, respectively. It can come, simultaneously it is the above-mentioned predetermined direction a, and the clamp crest 23 and the clamp trough 43 clamp the part into which the coaxial cable 8 is not exposing signal-line 81a and drain wire 81c. In addition, in this condition, signal-line 81a and drain wire 81c are two points, at least b points and c points, and are electrically connected to the base contact 3 by the piece 35 of a base side elastic contact spring, and the piece 52 of a support side elastic contact spring. And further, as shown in drawing 4, the covering insulator 4 of each other compared from the upper part of the base insulator 2 and a lower part is combined with a screw 44, and the covering insulator 4 is fixed to the base insulator 3 (above, connection and clamp process).

[0028] It removes with the UV hardening resin 82 which cut excessive signal-line 81a and drain wire 81c at the end, and was cut in the end section of a coaxial cable 8, sheath 81e, shielding 81d, and dielectric 81b (above, cable cutting process). The cable connector 1 of this operation gestalt is completed through each above process.

[0029] Next, other operation gestalten of this invention are explained. The cable connector which starts other operation gestalten of this invention at drawing 6 thru/or drawing 14 is shown. Since these cable connectors are the 1st operation gestalt and \*\*\*\* configuration, they attach the same reference number as the 1st operation gestalt about the same parts or the same parts of the 1st operation gestalt and a configuration, omit the explanation, and explain only the part from which a configuration differs.

[0030] The pieces 35 of a base side elastic contact spring are formed successively by the both ends of the pinching section 31 of the base contact 3, respectively, and it catches to the both ends of the pinching section 51 of the support contact 5, respectively, and pieces 54 are formed successively, and in the case of the cable connector 1 concerning the 2nd operation gestalt shown in drawing 6, the piece 35 of a base side elastic contact spring of the base contact 3 changes so that the support contact 5 may catch, it may collaborate with a piece 54 and the core wire of a coaxial cable 8 may be pinched.

[0031] In the case of the cable connector 1 concerning the 3rd operation gestalt shown in drawing 7, the core wire contact sections 32 are formed successively by the center section of the pinching section 31 of the base contact 3, and a pair of pieces 52 of a support side elastic contact spring are formed successively by the pinching section 51 of the support contact 5, and the press fit sections 53 are further formed successively by the end of the pinching section 51. And this piece 52 of a support side elastic contact spring of a pair of changes so that it may push against the core wire contact section 32, as the core wire of a coaxial cable 8 is pinched.

[0032] In the case of the cable connector 1 concerning the 4th operation gestalt shown in drawing 8, it is the body 40 of a covering insulator which has a clamp trough (not shown), and this body 40 of a covering insulator and another object, and the covering insulator 4 has a bridge wall 42, and consists of the contact attaching part 41 which can be detached and attached freely to the body 40 of a covering insulator. Moreover, the bridge wall 24 is formed also in the base insulator 2 with this operation gestalt. In addition, this operation gestalt will turn into the 1st operation gestalt in this configuration substantially, if the body 40 of a covering insulator is equipped with the contact attaching part 41. However, after fixing the body 40 of a covering insulator to the base insulator 2 in the case of this operation gestalt, connection of a core wire can be performed at the end by equipping the body 40 of a covering insulator with the contact attaching part 41.

[0033] In the case of the cable connector 1 concerning the 5th operation gestalt shown in drawing 9, the core wire contact sections 32 are formed successively by the both ends of the pinching section 31 of the base contact 3, respectively, and the pieces 52 of a support side elastic contact spring are formed successively by the both ends of the pinching section 51 of the support contact 5, respectively. The most characteristic part of this operation gestalt is the contact attaching part 41 of the covering insulator 4, and this contact attaching part 41 changes so that the core wire of a coaxial cable 8 may be pushed against the base contact 3 with the support contact 5.

[0034] Although the cable connector 1 concerning the 6th operation gestalt shown in drawing 10 is the 5th operation gestalt and \*\*\*\* configuration, the contact attaching part 41 of the covering insulator 4 changes so that the core wire of a coaxial cable 8 may not be pushed against the base contact 3, and the support contact 5 is pressed fit in the contact attaching part 41 so that the pinching section 51 may be located in the base insulator 2 side of this contact attaching part 41.

[0035] In the case of the cable connector 1 concerning the 7th operation gestalt shown in drawing 11, the core wire contact sections 32 are formed successively by the end of the pinching section 31 of the base contact 3, but nothing is prepared in the other end of the

pinching section 31. Moreover, the 1st pieces 52 of a supporter side elastic contact spring are formed successively by the end of the pinching section 51 of the support contact 5, and 2nd piece of support side elastic contact spring 52' is formed successively at the other end of the pinching section 51 so that it may stand in a line on this and a straight line.

[0036] In the case of the cable connector 1 concerning the 8th operation gestalt shown in drawing 12, the core wire contact sections 32 are formed successively by the both ends of the pinching section 31 of the base contact 3, respectively, and the pieces 52 of a support side elastic contact spring are formed successively, respectively in the end and center of the pinching section 51 of the support contact 5, and the press fit sections 53 are formed successively so that it may rank with the other end of the pinching section 51 on the pinching section 51 and a straight line further.

[0037] The cable connector 1 concerning the 9th operation gestalt shown in drawing 13 It became the configuration that the relation between the core wire contact section 32 in the 8th operation gestalt and the piece 52 of a support side elastic contact spring changed conversely exactly. That is, the pieces 35 of a base side elastic contact spring are formed successively, respectively in the end and center of the pinching section 31 of the base contact 3, it catches to the both ends of the pinching section 51 of the support contact 5, respectively, and pieces 54 are formed successively.

[0038] Although the cable connector 1 concerning the 10th operation gestalt shown in drawing 14 is the 8th operation gestalt and \*\*\*\* configuration, a bridge wall is not prepared in the covering insulator 4, instead the bridge wall 24 is formed in the base insulator 2. With this operation gestalt, first, a coaxial cable 82 is arranged in the base insulator 2, and after that, it changes so that the base insulator 2 may compare the covering insulator 4 and it may fix.

[0039] In addition, although it changes with the 1st thru/or 10th operation gestalt so that the covering insulator 4 may be fixed to the top face and inferior surface of tongue of the base insulator 2, you may make it fix the covering insulator 4 only to one field of the base insulator 2.

[0040] Moreover, a bridge wall can also be prepared only in the base insulator 3 so that clearly from the 10th operation gestalt which may prepare in both the covering insulator 4 and the base insulator 3, or is shown in drawing 1414, so that clearly from the 4th operation gestalt shown in drawing 8.

[0041] Moreover, although it changes with the 1st thru/or 10th operation gestalt so that the base contact 3 may be connected to a connection object, you may make it connect not only this but the support contact 5 to a connection object, and may make it connect both the base contact 3 and the support contact 5 to a connection object.

[0042] Moreover, although it changes with the 1st thru/or 10th operation gestalt so that the covering insulator 4 may be fixed to the base insulator 2 with a screw 44, you may make it fix a covering insulator to a base insulator with engagement means, such as for example, not only this but an engagement pawl.

[0043] Furthermore, although the cable connector 1 concerning the 1st thru/or 10th operation gestalt was the flat-sized object for the coaxial cables 8 with a drain wire, it can apply the cable connector of this invention not only to the flat-sized coaxial cable with a drain wire but to a general cable.

[0044]

[Effect of the Invention] Since the cable connector of this invention pinched the core wire of a cable by base contact and support contact, it can respond to \*\* pitch-ization of a cable.

[0045] And since the bridge wall, 1st, and 2nd clamp sections are prepared, the connection and the clamp of a cable can be performed to coincidence and the connection activity and the clamp activity of a cable can be done easily.

[0046] Furthermore, since the configuration is simple, the cable connector of this invention has a low manufacturing cost, and can offer a cable connector cheaply.

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**TECHNICAL FIELD**

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[Field of the Invention] This invention belongs to the connector for cables, and belongs to the cable connector suitable for the flat cable of the shape of a ribbon which arranged the core wire in the \*\* pitch especially.

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PRIOR ART

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[Description of the Prior Art] the approach of the connection in the conventional general cable connector pressing the core wire of a cable fit in the slit formed in the piece of a pressure welding of contact, and carrying out the pressure welding of the core wire to contact -- or it was carried out by the approach of making a core wire sticking to contact by pressure as the core wire of a cable is wrapped in by the piece of sticking by pressure of contact.

[0003] It is impossible to correspond the piece of a pressure welding and the piece of sticking by pressure of contact to \*\* pitchization of the core wire in today's multi-conductor cable by these connection approaches.

[0004] In order to cancel this trouble, the connector it was made to contact the core wire of a direct cable on the side face of contact was invented without preparing the piece of a pressure welding, and the piece of sticking by pressure in contact so that it might be indicated by JP,5-101853,A or JP,10-255921,A.

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TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] In the case of an electrical connector given in JP,5-101853,A, the cable to which the core wire was exposed is clamped by the 1st fixed attachment component and the 2nd fixed attachment component. However, in this condition While stopping the 1st and 2nd fixed attachment components in the fixed attachment component attachment section of a buttress plate, the center section of the exposure core wire is arranged on the core wire supporter of a buttress plate. After arranging the point of an exposure core wire on the tip attaching part of a buttress plate and constituting a male connector, this male connector is inserted into a tubed female connector along with the longitudinal direction of a cable, and the pressure welding of the exposure core wire is carried out to contact. Furthermore, by the above It changes so that an exposure core wire may be connected in contact. Thus, in this electrical connector, the clamp and connection of a cable could not be performed to coincidence, but that activity was troublesome.

[0006] Moreover, since it changed so that a male connector may be inserted into a female connector by the longitudinal direction of a cable and the core wire of a cable may be pushed against contact in the thickness direction of a male connector within this female connector, the press heights for driving the press slider and this press slider for pushing a core wire against contact in the thickness direction of a male connector etc. were needed, and for this reason, the configuration was complicated and disadvantageous in this electrical connector, in respect of the manufacturing cost etc.

[0007] on the other hand -- the case of a connector given in JP,10-255921,A -- the cable of a cable -- a conductor, although characterized by using the very thing as a plug of a connector Therefore, two or more cables are made to arrange on a cable holder by the cable seriate arrangement section (above). A conductor is arranged to the cable guide rail of a cable holder. equivalent to a clamp activity, after that, and a cable -- this cable -- a conductor -- the shape of U character -- bending -- the point of a cable holder -- twisting -- this cable -- the tip of a conductor is stuck on a cable holder by lamination, since it changes like (above equivalent to a connection activity) Too, this connector could not perform the clamp and connection of a cable to coincidence, either, but that activity was troublesome. Furthermore, since the cable seriate arrangement section, a lamination, etc. were needed, it was disadvantageous in respect of the manufacturing cost etc.

[0008] So, the technical problem of this invention can be equivalent to \*\* pitch-ization of a cable, moreover, is cheap and is to offer the cable connector which can perform the connection and the clamp of a cable to coincidence.

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MEANS

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[Means for Solving the Problem] According to invention according to claim 1, it is a cable connector for connecting a cable to the connection object. A base insulator, The base contact which is formed in this base insulator and contacts the core wire of said cable on this base insulator, The covering insulator which is compared by said base insulator and fixed to it in the predetermined direction, The support contact which collaborates with said base contact and pinches said core wire when it is prepared in this covering insulator and this covering insulator is compared by said base insulator, It is formed at least in one side of said base insulator and said covering insulator. It has the bridge wall which positions said core wire to said base contact and said support contact. The cable connector characterized by at least one side of said base contact and said support contact changing so that it may connect with said connection object is obtained.

[0010] According to invention according to claim 2, at least one side of said base contact and said support contact has a piece of an elastic contact spring, and the cable connector according to claim 1 characterized by said core wire being electrically connected at least to one side of said base contact and said support contact by this piece of an elastic contact spring is obtained.

[0011] According to invention according to claim 3, the cable connector according to claim 1 or 2 characterized by said base insulator having the bracing for preventing the deflection of said base contact in the direction which intersects perpendicularly with said predetermined direction and the longitudinal direction of said cable is obtained.

[0012] According to invention according to claim 4, the cable connector of a publication is obtained by claim 1 characterized by said covering insulator changing so that it may be fixed to said base insulator with a screw thru/or the claim of one of 3.

[0013] According to invention according to claim 5, the cable connector of a publication is obtained by claim 1 characterized by said covering insulator changing so that it may be fixed to said base insulator by the engagement means thru/or the claim of one of 3.

[0014] According to invention according to claim 6, said base insulator has the 1st clamp section for clamping the thickness direction end face of said cable in said predetermined direction, and the cable connector of a publication is obtained by claim 1 characterized by said covering insulator having the 2nd clamp section which collaborates with said 1st clamp section and clamps the thickness direction end face of said cable in said predetermined direction thru/or the claim of one of 5.

[0015] According to invention according to claim 7, it is the connection approach for connecting a cable connector given in claim 1 thru/or the claim of one of 6 on a cable. So that said exposed core wire may contact said support contact after the core wire exposure process at which the half strip of the edge of said cable is carried out, and some core wires are exposed, and this core wire exposure process The cable-layout process which arranges said cable to said covering insulator, By comparing said covering insulator to said base insulator in said predetermined direction with said cable after this cable-layout process, and fixing said covering insulator to said base insulator further After the connection and the clamp process which clamps said cable while pinching said exposed core wire by said base contact and said support contact and connecting this core wire at least to one side of said base contact and said support contact electrically, and this connection and clamp process, The connection approach characterized by having the cable cutting process of cutting the edge of said cable is acquired.

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[Translation done.]

## \* NOTICES \*

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

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OPERATION

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[Function] If a covering insulator is compared to a base insulator in the predetermined direction and these are mutually fixed after aligning the core wire of a cable with a bridge wall in the case of the cable connector of this invention, it will be pinched by base contact and support contact, and will connect at least with one of these electrically, and a core wire will be clamped by coincidence.  
[0017]

[Embodiment of the Invention] Drawing of longitudinal section of the cable connector which drawing 1 requires for the 1st operation gestalt of this invention, The sectional view in the A-A line of drawing 1 and drawing 3 drawing 2 The sectional view in the B-B line of drawing 1 , Drawing 4 shows the cable connector of drawing 1 . A front view and (b) (a) A top view, The flat-sized coaxial cable with a drain wire which is connected to the cable connector which shows (c) in a side elevation and shows drawing 5 to drawing 1 is shown, and (a) is [ the top view of an important section and (c of a perspective view and (b)) ] the cross-sectional views of an important section.

[0018] With reference to drawing 1 thru/or drawing 5 , the cable connector 1 of this operation gestalt is constituted including the base insulator 2, two or more base contacts 3, the two covering insulator 4, and two or more support contacts 5. This cable connector 1 is for connecting the flat-sized coaxial cable 8 with a drain wire to the other party connector (not shown) which is a connection object.

[0019] Incidentally, this flat-sized coaxial cable 8 with a drain wire consists of the UV hardening resin (or film) 82 which connects two or more coaxial cables 81 with a drain wire and these coaxial cables 81 with a drain wire so that clearly from drawing 5 . Furthermore, each coaxial cable 81 with a drain wire has changed to signal-line 81a, dielectric 81b which encloses this signal-line 81a, drain wire 81c which extends in parallel with signal-line 81a, signal-line 81a and dielectric 81b, and a list from sheath 81e which holds shielding 81d which wraps in drain wire 81c, and these signal-lines 81a, dielectric 81b, drain wire 81c, and shielding 81d. In addition, in the case of this flat-sized coaxial cable 8 with a drain wire, signal-line 81a and drain wire 81c change with the core wire.

[0020] The base insulator 2 has the clamp crests 23 and 23 which are the plate-like section 21, the fitting section 22, and the 1st clamp section. The plate-like section 21 is plate-like, is the thickness direction, and it changes so that a coaxial cable 8 may be caught and supported. Bracing 21a for preventing the deflection of the base contact 3 of the direction which intersects perpendicularly with space in drawing 1 is formed in the plate-like section 21. The fitting sections 22 are the other party connector and a part which fits in, and are formed successively by the end of the plate-like section 21 at one. The clamp crests 23 and 23 protrude on the vertical side of the other end of the plate-like section 21 at one, respectively. These clamp crests 23 and 23 are the predetermined directions (in the case of this operation gestalt the thickness direction of the plate-like section 21) a, and are for clamping the thickness direction end face (it being the direction end face of a path, when the cross section of a cable is circular) of a coaxial cable 8.

[0021] The pinching section 31 for each base contact 3 to pinch the core wire of a coaxial cable 8, The core wire contact section 32 which are formed successively by the end of this pinching section 31 and contacts a core wire, The press fit section 33 which are formed successively by the end of this core wire contact section 32, and is pressed fit in the fitting section 22, It is formed successively by the end of this press fit section 33, is formed successively by the other end of the other party contact section 34 in contact with the other party connector, and the pinching section 31, and has the piece 35 of a base side elastic contact spring which presses a core wire to the direction of the support contact 5. Two or more base contacts 3 are pressed fit in the fitting section 22 in the predetermined pitch in the vertical side of the plate-like section 21.

[0022] Two or more contact attaching parts 41 which each covering insulator 4 is abbreviation plate-like, and were formed so that the base contact 3 might be countered in the above-mentioned predetermined direction a at the end section, The bridge wall 42 which is prepared in the both sides of each contact attaching part 41, and positions a core wire to the support contact 5 and the base contact 3, It is formed in the base insulator 2 side of the other end of the covering insulator 4, and has the clamp trough 43 which is the 2nd clamp section which collaborates with the clamp crest 23 and clamps the thickness direction end face of a coaxial cable 8 in the above-mentioned predetermined direction a. Crevice 42a for avoiding contact to bracing 21a formed in the base insulator 2 is formed in the bridge wall 42. It is the above-mentioned predetermined direction a, as two covering insulators 4 put the base insulator 2, they are compared by the base insulator 2, and it is in this condition, and as shown in drawing 4 , they change [ it is mutually joined with a screw 44 and ] so that it may be fixed to the base insulator 2 by this.

[0023] The pinching section 51 which collaborates with the pinching section 31 of the base contact 3, and pinches the core wire of a coaxial cable 8 when each support contact 5 is presenting the shape of an abbreviation easy and the covering insulator 4 is compared by the base insulator 2, The piece 52 of a support side elastic contact spring which are formed successively by the end of this pinching section 51 and pushes a core wire against the direction of the core wire contact section 32 of the base contact 3, The press fit section 53 which are formed successively by the center section of the pinching section 51 and is pressed fit in the contact attaching part 41 of the covering insulator 4, It is formed successively by the other end of the pinching section 51, the piece 35 of a base side elastic contact spring of the base contact 3 is countered, the core wire pressed by this piece 35 of a base side elastic contact spring is caught and caught, and it has the piece 54. Each support contact 5 is arranged between bridge walls 42 by pressing the press fit section 53 fit in the contact attaching part 41 of the covering insulator 4.

[0024] Next, the connection approach of the flat-ized coaxial cable 8 with a drain wire in the cable connector 1 of this operation gestalt is explained.

[0025] First, as shown in drawing 5, in the end section of a coaxial cable 8, UV hardening resin 82, sheath 81e, shielding 81d, and dielectric 81b are cut, this cut part is shifted from signal-line 81a and drain wire 81c in the direction of a tip to extent which is not dedropping, and the half strip of a part of signal-line 81a and drain wire 81c is carried out (above, core wire exposure process).

[0026] Next, as shown in the base insulator 2 bottom shown in drawing 1 thru/or drawing 3 in this condition, a coaxial cable 8 is arranged to the covering insulator 4. Signal-line 81a and drain wire 81c of a coaxial cable 8 are arranged between bridge walls 42, respectively, and it is made for signal-line 81a and drain wire 81c to contact the support contact 5 at this time (above, cable-layout process).

[0027] Next, as shown in the base insulator 2 bottom shown in drawing 1 thru/or drawing 3, the covering insulator 4 which has arranged the coaxial cable 8 is compared to the base insulator 2 in the above-mentioned predetermined direction with a coaxial cable 8. Consequently, signal-line 81a and drain wire 81c of a coaxial cable 8 are pinched by the base contact 3 and the support contact 5, and connection of signal-line 81a and the drain wire 81c is carried out to the base contact 3, respectively. It can come, simultaneously it is the above-mentioned predetermined direction a, and the clamp crest 23 and the clamp trough 43 clamp the part into which the coaxial cable 8 is not exposing signal-line 81a and drain wire 81c. In addition, in this condition, signal-line 81a and drain wire 81c are two points, at least b points and c points, and are electrically connected to the base contact 3 by the piece 35 of a base side elastic contact spring, and the piece 52 of a support side elastic contact spring. And further, as shown in drawing 4, the covering insulator 4 of each other compared from the upper part of the base insulator 2 and a lower part is combined with a screw 44, and the covering insulator 4 is fixed to the base insulator 3 (above, connection and clamp process).

[0028] It removes with the UV hardening resin 82 which cut excessive signal-line 81a and drain wire 81c at the end, and was cut in the end section of a coaxial cable 8, sheath 81e, shielding 81d, and dielectric 81b (above, cable cutting process). The cable connector 1 of this operation gestalt is completed through each above process.

[0029] Next, other operation gestalten of this invention are explained. The cable connector which starts other operation gestalten of this invention at drawing 6 thru/or drawing 14 is shown. Since these cable connectors are the 1st operation gestalt and \*\*\*\* configuration, they attach the same reference number as the 1st operation gestalt about the same parts or the same parts of the 1st operation gestalt and a configuration, omit the explanation, and explain only the part from which a configuration differs.

[0030] The pieces 35 of a base side elastic contact spring are formed successively by the both ends of the pinching section 31 of the base contact 3, respectively, and it catches to the both ends of the pinching section 51 of the support contact 5, respectively, and pieces 54 are formed successively, and in the case of the cable connector 1 concerning the 2nd operation gestalt shown in drawing 6, the piece 35 of a base side elastic contact spring of the base contact 3 changes so that the support contact 5 may catch, it may collaborate with a piece 54 and the core wire of a coaxial cable 8 may be pinched.

[0031] In the case of the cable connector 1 concerning the 3rd operation gestalt shown in drawing 7, the core wire contact sections 32 are formed successively by the center section of the pinching section 31 of the base contact 3, and a pair of pieces 52 of a support side elastic contact spring are formed successively by the pinching section 51 of the support contact 5, and the press fit sections 53 are further formed successively by the end of the pinching section 51. And this piece 52 of a support side elastic contact spring of a pair of changes so that it may push against the core wire contact section 32, as the core wire of a coaxial cable 8 is pinched.

[0032] In the case of the cable connector 1 concerning the 4th operation gestalt shown in drawing 8, it is the body 40 of a covering insulator which has a clamp trough (not shown), and this body 40 of a covering insulator and another object, and the covering insulator 4 has a bridge wall 42, and consists of the contact attaching part 41 which can be detached and attached freely to the body 40 of a covering insulator. Moreover, the bridge wall 24 is formed also in the base insulator 2 with this operation gestalt. In addition, this operation gestalt will turn into the 1st operation gestalt in this configuration substantially, if the body 40 of a covering insulator is equipped with the contact attaching part 41. However, after fixing the body 40 of a covering insulator to the base insulator 2 in the case of this operation gestalt, connection of a core wire can be performed at the end by equipping the body 40 of a covering insulator with the contact attaching part 41.

[0033] In the case of the cable connector 1 concerning the 5th operation gestalt shown in drawing 9, the core wire contact sections 32 are formed successively by the both ends of the pinching section 31 of the base contact 3, respectively, and the pieces 52 of a support side elastic contact spring are formed successively by the both ends of the pinching section 51 of the support contact 5, respectively. The most characteristic part of this operation gestalt is the contact attaching part 41 of the covering insulator 4, and this contact attaching part 41 changes so that the core wire of a coaxial cable 8 may be pushed against the base contact 3 with the support contact 5.

[0034] Although the cable connector 1 concerning the 6th operation gestalt shown in drawing 10 is the 5th operation gestalt and \*\*\*\* configuration, the contact attaching part 41 of the covering insulator 4 changes so that the core wire of a coaxial cable 8 may not be pushed against the base contact 3, and the support contact 5 is pressed fit in the contact attaching part 41 so that the pinching section 51 may be located in the base insulator 2 side of this contact attaching part 41.

[0035] In the case of the cable connector 1 concerning the 7th operation gestalt shown in drawing 11, the core wire contact sections 32 are formed successively by the end of the pinching section 31 of the base contact 3, but nothing is prepared in the other end of the pinching section 31. Moreover, the 1st pieces 52 of a supporter side elastic contact spring are formed successively by the end of the pinching section 51 of the support contact 5, and 2nd piece of support side elastic contact spring 52' is formed successively at the other end of the pinching section 51 so that it may stand in a line on this and a straight line.

[0036] In the case of the cable connector 1 concerning the 8th operation gestalt shown in drawing 12, the core wire contact sections 32 are formed successively by the both ends of the pinching section 31 of the base contact 3, respectively, and the pieces 52 of a support side elastic contact spring are formed successively, respectively in the end and center of the pinching section 51 of the support contact 5, and the press fit sections 53 are formed successively so that it may rank with the other end of the pinching section 51 on the pinching section 51 and a straight line further.

[0037] The cable connector 1 concerning the 9th operation gestalt shown in drawing 13 It became the configuration that the relation between the core wire contact section 32 in the 8th operation gestalt and the piece 52 of a support side elastic contact spring changed conversely exactly. That is, the pieces 35 of a base side elastic contact spring are formed successively, respectively in the end and center of the pinching section 31 of the base contact 3, it catches to the both ends of the pinching section 51 of the support contact 5, respectively, and pieces 54 are formed successively.

[0038] Although the cable connector 1 concerning the 10th operation gestalt shown in drawing 14 is the 8th operation gestalt and \*\*\*\* configuration, a bridge wall is not prepared in the covering insulator 4, instead the bridge wall 24 is formed in the base insulator 2. With this operation gestalt, first, a coaxial cable 82 is arranged in the base insulator 2, and after that, it changes so that the base insulator 2 may compare the covering insulator 4 and it may fix.

[0039] In addition, although it changes with the 1st thru/or 10th operation gestalt so that the covering insulator 4 may be fixed to the top face and inferior surface of tongue of the base insulator 2, you may make it fix the covering insulator 4 only to one field of the base insulator 2.

[0040] Moreover, a bridge wall can also be prepared only in the base insulator 3 so that clearly from the 10th operation gestalt which may prepare in both the covering insulator 4 and the base insulator 3, or is shown in drawing 1414 , so that clearly from the 4th operation gestalt shown in drawing 8 .

[0041] Moreover, although it changes with the 1st thru/or 10th operation gestalt so that the base contact 3 may be connected to a connection object, you may make it connect not only this but the support contact 5 to a connection object, and may make it connect both the base contact 3 and the support contact 5 to a connection object.

[0042] Moreover, although it changes with the 1st thru/or 10th operation gestalt so that the covering insulator 4 may be fixed to the base insulator 2 with a screw 44, you may make it fix a covering insulator to a base insulator with engagement means, such as for example, not only this but an engagement pawl.

[0043] Furthermore, although the cable connector 1 concerning the 1st thru/or 10th operation gestalt was the flat-sized object for the coaxial cables 8 with a drain wire, it can apply the cable connector of this invention not only to the flat-sized coaxial cable with a drain wire but to a general cable.

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[Translation done.]